Twister

Condensing Stainless Steel Water Heater

TWI 35-130/45-190

Fully room-sealed condensing high-efficiency water heater (95% gross) • Stainless steel tank • No anodes simplify maintenance • Premix Low-NOx burner saves the environment • Whisper quiet operation • Specially designed blower and burner minimize noise • Plug-and-Play technology; connect air inlet, exhaust outlet, water, electricity, and gas, set the temperature and the system functions properly • Three external LED lights indicate operational status of water heater • Full serviceability from the front • Suitable for natural gas

Innovation has a name.

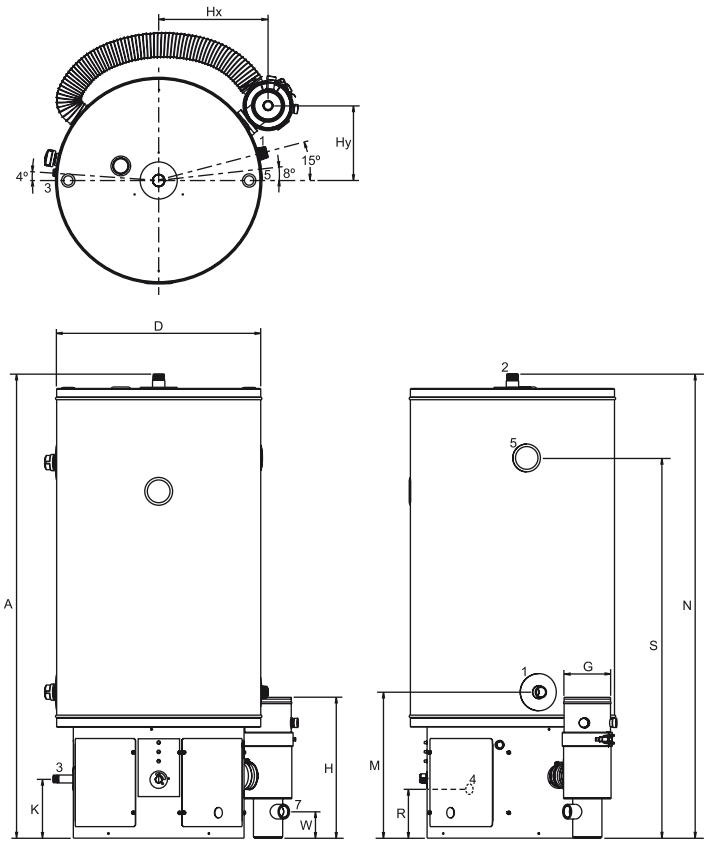
Technical specifications

		TWI 35-130	TWI 45-190
Gas data natural gas 2H (G20)			
Input*	kW	37.8	50.0
Output	kW	36.0	47.7
Inlet pressure	mbar	20	20
NOx-value	ppm	21	16
Gas consumption**	m^3/h	3.6	4.8
Max. flue gas temperature	°C	65	65
Flue gas discharge	kg/h	61.2	78.6
Draw-off capacity			
Storage capacity	l	129	189
Maximum working pressure	bar	8	8
Max. temperature setting	°C	85	85
T_{cold} = 10°C / T_{set} = 65°C			
30 min. ΔT=44°C	l	440	664
60 min. ΔT=44°C	l	792	1131
90 min. ΔT=44°C	l	1145	1597
120 min. ΔT=44°C	l	1497	2063
Continuous ΔT=44°C	l/h	704	932
Heating-up time ΔT=44°C	min.	11	12
30 min. ΔT=50°C	l	378	573
60 min. ΔT=50°C	l	688	983
90 min. ΔT=50°C	l	998	1394
120 min. ΔT=50°C	l	1308	1804
Continuous ΔT=50°C	l/h	620	820
Heating-up time ΔT=50°C	min.	12	14
30 min. ΔT=55°C	l	335	511
60 min. ΔT=55°C	l	617	884
90 min. ΔT=55°C	l	899	1257
120 min. ΔT=55°C	l	1181	1630
Continuous ΔT=55°C	l/h	564	746
Heating-up time ΔT=55°C	min.	14	15
Electrical data			
Power consumption	W	200	300
Power supply	VAC/Hz	230 (-15% +10% VAC) / 50 (+/- 1 Hz)	
Shipping data			
Weight empty	kg	70	82
Maximum weight	kg	199	271
Weight incl. packaging	kg	88	100
Height packaging	mm	1400	1750
Width packaging	mm	780	780
Depth packaging	mm	870	870

* Gas data on gross value

** Gas consumption at 15°C and 1013.25 mbar

Dimensions

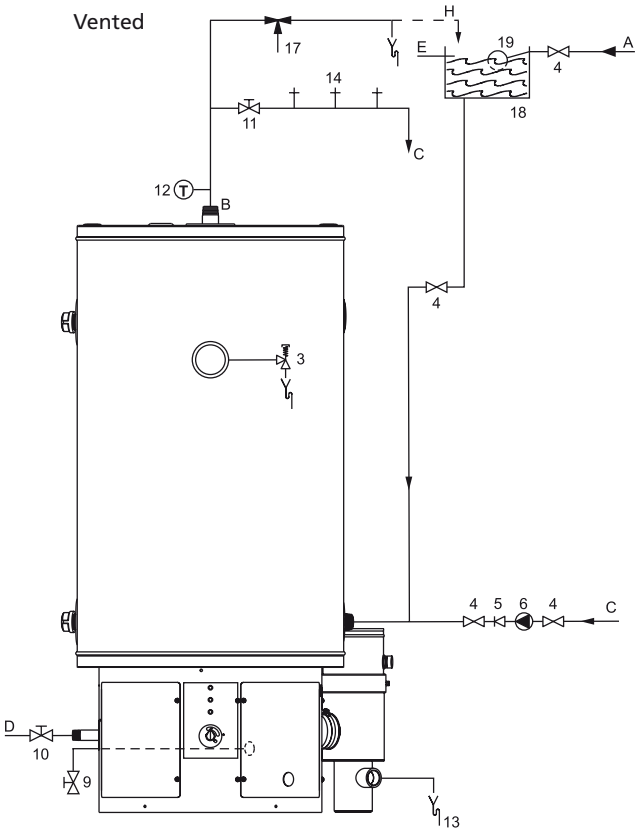


		TWI 35-130	TWI 45-190
A		1270	1620
D		560	560
G		80/125	80/125
H		385	385
Hx		300	300
Hy		205	205
K		160	160
M		400	400
N		1270	1620
R		155	155
S		1040	1395
W		100	100
1	Cold water	1" NPT	1" NPT
2	Hot water	1" NPT	1" NPT
3	Gas control	1/2" NPT	3/4" NPT
4	Tank drain valve	3/4" NPT	3/4" NPT
5	T&P valve	3/4" NPT	3/4" NPT
7	Condensation drainage	Rp1	Rp1

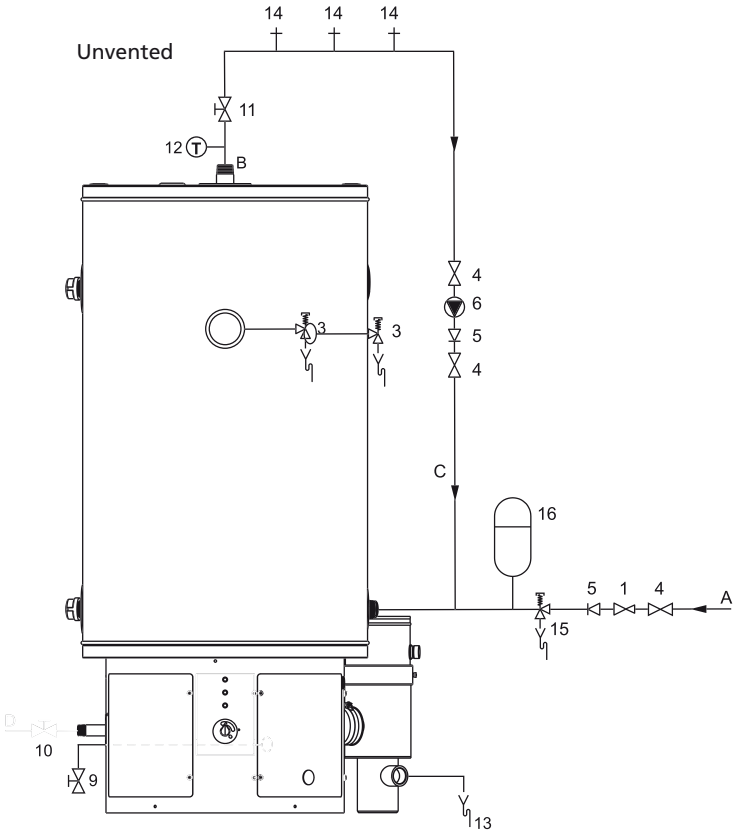
Dimensions in mm. All Twister water heaters receive a five years warranty on the tank and one year on parts.

Installation diagrams

Vented



Unvented



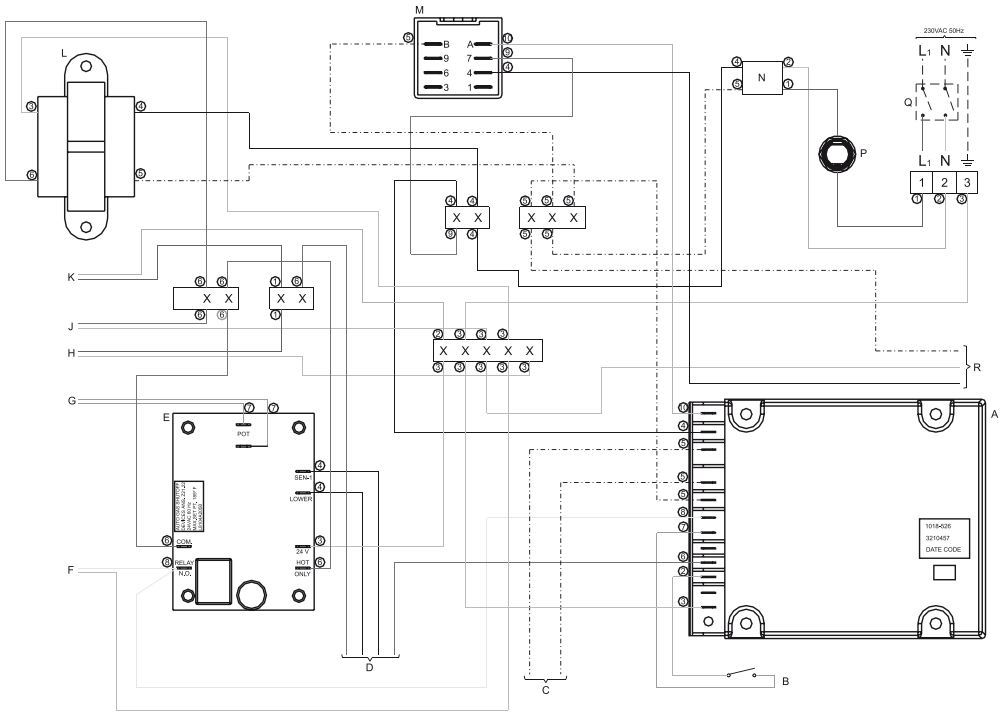
1 Pressure reducing valve
3 T&P valve
4 Stop valve
5 Non-return valve
6 Circulation pump
9 Drain valve
10 Gas cock
11 Isolating valve
12 Temperature gauge
13 Condense drain
14 Hot water outlets
15 Expansion relief valve
16 Expansion vessel
17 Three way valve
18 Water tank
19 Float valve

A Cold water
B Hot water
C Return circulation
D Gas supply
E Overflow pipe
H Expansion vent pipe

A.O. Smith unvented system kits utilise combination valves.

Further installation and connection details can be found in the Installation & Commissioning Manual.

Electrical diagram



TERMINAL STRIP CONNECTIONS

⏚ Earth
N Neutral
L1 Phase

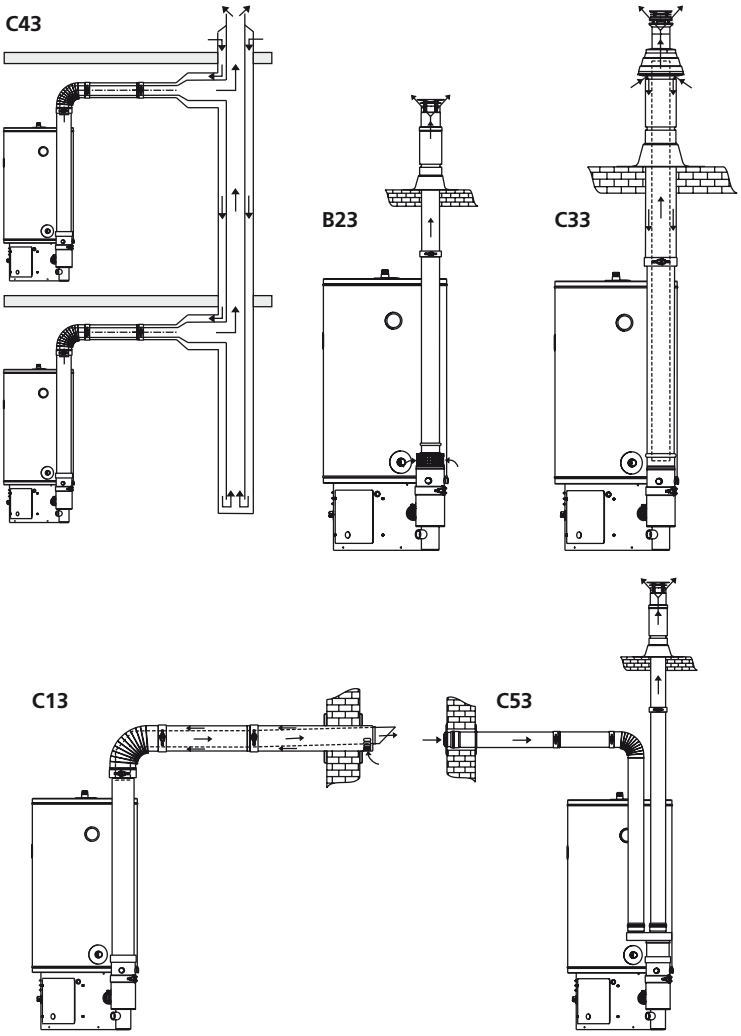
COMPONENTS

A Ignition control
B Pressure switch
C Glow igniter
D Temperature sensor / ECO
E Thermostat board
F Yellow led
G Temperature selector knob
H Red led
J Green led
K Gas valve
L Transformer 120VAC-24VAC
M Blower relay
N Transformer 230VAC-120VAC
P Fuse
Q Double pole mains switch
R Blower

Colour code cables

① = brown
② = blue
③ = green
④ = black
⑤ = white
⑥ = red
⑦ = orange
⑧ = yellow
⑨ = black/red
⑩ = black/white

Installation options



A Twister water heater should be installed according category B23, C13, C33, C43 or C53*.

	TWI 35-130	TWI 45-190
Concentric		
Diameter (mm)	80/125	80/125
Max. length (m)	20	20
Max. 45/90° bend	5	5
Parallel (standard diameter)		
Diameter (mm)	80	80
Max. length (m)	30	20
$L_{equivalent}$/bend 90° (m)	3.9	3.9
$L_{equivalent}$/bend 45° (m)	1.1	1.1
Parallel (larger diameter for more length)		
Diameter (mm)	100	100
Max. length (m)	100	75
$L_{equivalent}$/bend 90° (m)	4.6	4.6
$L_{equivalent}$/bend 45° (m)	1.2	1.1

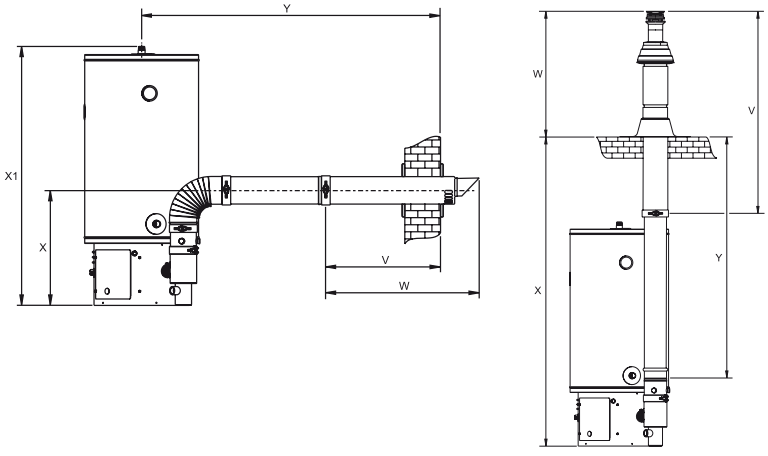
* All Twisters are also approved for installations where the unit is supplied without venting materials (C63).

Concentric flues
It is **not** permitted to use more than the specified number of bends, even when the duct is shorter than the maximum length. A 45° bend is equivalent to a 90° bend.

Parallel flues
- The maximum permissible length should be reduced by the equivalent length of each bend. (Note: for a parallel installation this means that 3 changes in direction amount to 6 bends (3 in the supply duct and 3 in the flue).
- The maximum length also applies if a parallel installation has different supply and flue duct lengths (B23, C53).
- Combined flues (C43) shall be fitted with a condensate drain.

Note: horizontal flue runs must be installed with a fall of at least 5 mm per metre towards the heater.

Minimum space requirements



	TWI 35-130 Ø80/125	TWI 45-190 Ø80/125
Minimal space for wall duct (mm)		
V	550	550
W	725	725
X	530	530
X1	1270	1620
Y	1495	1495
Y *	1045	1045
Minimal space for roof duct (mm)		
V	1305	1305
W	680	680
X	1960	1960
Y	1575	1575

For the parts numbers of components and flue gas ducts, etc. please refer to the "Maintenance and accessories" chapter.

* Distance without concentric pipe between bend and wall duct.

Data subject to change INT/1108/TWI/02
Terms and conditions apply, please refer to our website.

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